625-CD-009-001

EOSDIS Core System Project

ECS Project Training Material
Volume 9: Data Distribution

December 1997

Hughes Information Technology Systems
Upper Marlboro, Maryland

ECS Project Training Material
Volume 9: Data Distribution

December 1997

Prepared Under Contract NAS5-60000
CDRL Item 129

RESPONSIBLE ENGINEER

Ralph E. Fuller /s/ 12/16/97

Ralph E. Fuller Date
EOSDIS Core System Project

SUBMITTED BY

Thomas Hickey /s/ 12/17/97

Tom Hickey, M&O Manager Date
EOSDIS Core System Project

Hughes Information Technology Systems
Upper Marlboro, Maryland

625-CD-009-001

This page intentionally left blank.

Preface

This document is a contract deliverable with an approval code of 3. As such, it does not require formal Government approval. This document is delivered for information only, but is subject to approval as meeting contractual requirements.

Any questions should be addressed to:

Data Management Office
The ECS Project Office
Hughes Information Technology Systems
1616 McCormick Dr.
Upper Marlboro, MD 20774-5372

This page intentionally left blank.

Abstract

This is Volume 9 of a series of lessons containing the training material for Version 2.0 Drop 2 of the Earth Observing System Data and Information System (EOSDIS) Core System (ECS). This lesson provides a detailed description of the process required for data distribution.

***Keywords**:* training, instructional design, course objective, distribution, data distribution

This page intentionally left blank.

Change Information Page

List of Effective Pages	
Page Number	**Issue**
Title	Original
iii through x	Original
1 through 30	Original
Slide Presentation 1 through 25	Original

Document History			
Document Number	**Status/Issue**	**Publication Date**	**CCR Number**
625-CD-009-001	Original	December 1997	

This page intentionally left blank.

Contents

Launching Data Distribution Applications

Distribution Request Operations

Practical Exercise

Slide Presentation

.

Introduction

Identification

Training Material Volume 9 is part of Contract Data Requirements List (CDRL) Item 129, whose requirements are specified in Data Item Description (DID) 625/OP3 and is a required deliverable under the Earth Observing System Data and Information System (EOSDIS) Core System (ECS), Contract (NAS5-6000).

Scope

Training Material Volume 9 describes the process and procedures for data distribution. This lesson is designed to provide the operations staff with sufficient knowledge and information to satisfy all lesson objectives.

Purpose

The purpose of this Student Guide is to provide a detailed course of instruction that forms the basis for understanding data distribution. Lesson objectives are developed and will be used to guide the flow of instruction for this lesson. The lesson objectives will serve as the basis for verifying that all lesson topics are contained within this Student Guide and slide presentation material.

Status and Schedule

This lesson module provides detailed information about training for Version 2.0 Drop 2. Subsequent revisions will be submitted as needed.

Organization

This document is organized as follows:

Introduction:	The Introduction presents the document identification, scope, purpose, and organization.
Related Documentation:	Related Documentation identifies parent, applicable and information documents associated with this document.
Student Guide:	The Student Guide identifies the core elements of this lesson. All Lesson Objectives and associated topics are included.
Slide Presentation:	Slide Presentation is reserved for all slides used by the instructor during the presentation of this lesson.

This page intentionally left blank.

Related Documentation

Parent Document

The parent document is the document from which this ECS Training Material's scope and content are derived.

423-41-01	Goddard Space Flight Center, EOSDIS Core System (ECS) Statement of Work

Applicable Documents

The following documents are referenced within this ECS Training Material, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this document:

420-05-03	Goddard Space Flight Center, Earth Observing System (EOS) Performance Assurance Requirements for the EOSDIS Core System (ECS)
423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS)

Information Documents

Information Documents Referenced

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of the ECS Training Material.

535-TIP-CPT-001	Goddard Space Flight Center, Mission Operations and Data Systems Directorate (MO&DSD) Technical Information Program Networks Technical Training Facility, Contractor-Provided Training Specification
609-CD-003-001	Operations Tools Manual for the ECS Project
611-CD-004-001	Mission Operation Procedures for the ECS Project

Information Documents Not Referenced

The following documents, although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These documents are not binding on the content of the ECS Training Material.

220-TP-001-001	Operations Scenarios - ECS Release B.0 Impacts, Technical Paper for the ECS Project

305-CD-020-002	Release B SDPS/CSMS System Design Specification Overview for the ECS Project
305-CD-021-002	Release B SDPS Client Subsystem Design Specification for the ECS Project
305-CD-022-002	Release B SDPS Interoperability Subsystem Design Specification for the ECS Project
305-CD-023-002	Release B SDPS Data Management Subsystem Design Specification for the ECS Project
305-CD-024-002	Release B SDPS Data Server Subsystem Design Specification for the ECS Project
305-CD-025-002	Release B SDPS Ingest Subsystem Design Specification for the ECS Project]
305-CD-026-002	Release B SDPS Planning Subsystem Design Specification for the ECS Project
305-CD-027-002	Release B SDPS Data Processing Subsystem Design Specification for the ECS Project
305-CD-028-002	Release B CSMS Communications Subsystem Design Specification for the ECS Project
305-CD-029-002	Release B CSMS System Management Subsystem Design Specification for the ECS Project
305-CD-030-002	Release B GSFC DAAC Design Specification for the ECS Project
305-CD-031-002	Release B Langley DAAC Design Specification for the ECS Project
305-CD-033-002	Release B EDC DAAC Design Specification for the ECS Project
305-CD-034-002	Release B ASF DAAC Design Specification for the ECS Project
305-CD-035-002	Release B NSIDC DAAC Design Specification for the ECS Project
305-CD-036-002	Release B JPL PO.DAAC Design Specification for the ECS Project
305-CD-037-002	Release B ORNL DAAC Design Specification for the ECS Project
305-CD-038-002	Release B System Monitoring and Coordination Center Design Specification for the ECS Project
305-CD-039-002	Release B Data Dictionary Subsystem Design Specification for the ECS Project
601-CD-001-004	Maintenance and Operations Management Plan for the ECS Project
604-CD-001-004	Operations Concept for the ECS Project: Part 1-- ECS Overview

604-CD-002-003	Operations Concept for the ECS Project: Part 2B -- ECS Release B
605-CD-002-001	Release B SDPS/CSMS Operations Scenarios for the ECS Project
607-CD-001-002	ECS Maintenance and Operations Position Descriptions
500-1002	Goddard Space Flight Center, Network and Mission Operations Support (NMOS) Certification Program, 1/90

This page intentionally left blank.

Data Distribution Overview

Lesson Overview

This lesson will provide you with the complete process by which the ECS personnel perform data distribution. The processes described in the lesson apply to Ingest/Distribution Technicians. The procedures involved in data distribution include such tasks as monitoring data distribution requests, changing the priority of a distribution request, or canceling, suspending and/or resuming a distribution request

Lesson Objectives

Overall Objective - The overall objective of the Data Distribution lesson is for Maintenance and Operations (M&O) personnel to develop proficiency in the procedures that apply to data distribution operations for the Earth Observing System (EOS) Data and Information System (EOSDIS) Core System (ECS).

Condition - The student will be given oral or written information and requirements for performing data distribution activities, access to the Data Server Subsystem, a copy of 609-CD-003-001, *Operations Tools Manual*, and a copy of 611-CD-004-001, *Mission Operation Procedures for the ECS Project*.

Standard - The student will perform data distribution activities in accordance with the prescribed procedures without error.

Specific Objective 1 - The student will describe the general processes associated with data distribution, including network (electronic) data pull and network data push.

Condition - The student will be given written or oral questions concerning the general processes associated with data distribution.

Standard - The student will state without error the general processes associated with data distribution in accordance with the lesson content and the applicable procedures.

Specific Objective 2 - The student will perform the steps involved in launching data distribution applications.

Condition - The student will be given a statement of the requirements for launching data distribution applications, access to the Data Server Subsystem (through a workstation or X terminal), a copy of 609-CD-003-001, *Operations Tools Manual*, and a copy of 611-CD-004-001, *Mission Operation Procedures for the ECS Project*.

Standard - The student will perform without error the steps involved in launching data distribution applications in accordance with the applicable procedure.

Specific Objective 3 - The student will perform the steps involved in monitoring data distribution requests, including changing the priority of distribution requests, and suspending/resuming or canceling distribution requests.

Condition - The student will be given a statement of the requirements for monitoring data distribution requests, access to the Data Server Subsystem (through a workstation or terminal), a copy of 609-CD-003-001, *Operations Tools Manual*, and a copy of 611-CD-004-001, *Mission Operation Procedures for the ECS Project*.

Standard - The student will perform without error the steps involved in monitoring data distribution requests in accordance with the applicable procedures.

Importance

This lesson applies to students who will be Distributed Active Archive Center (DAAC) Ingest/Distribution Technicians. The lesson will provide them with the knowledge and skills needed when performing their assigned tasks. Those tasks include monitoring data pull operations, monitoring data push operations, changing the priority of distribution requests, and suspending/resuming or canceling distribution requests. The lesson describes why and how the activities are performed. Consequently, the students will become aware of what tasks they will be performing on the job and how to accomplish those tasks.

Distribution Concepts

General

The Data Distribution lesson contains descriptions of the general data distribution process and the procedures the DAAC Ingest/Distribution Technicians use when performing data distribution activities at the Distributed Active Archive Centers (DAACs).

Data Distribution is a process of retrieving archived data and providing the data to users in response to the users' requests. The users may be classified in either of the following two categories:

- External to ECS.
  - For example, scientists at Science Computing Facilities (SCFs) may have standing orders for the data products that are processed using their science software.
- Internal to ECS.
  - For example, the Data Processing Subsystem depends on Data Distribution to distribute copies of archived science software and input data in support of data processing.

Currently, data retrieved from the archives can be distributed to requesters using either of the following two methods:

- Electronic pull.
- Electronic push.

Eventually, it will be possible to distribute data on hard (physical) media also.

The method of data distribution is dictated by the nature of the data distribution request. (The user specifies the distribution method in the distribution request.)

If the requester specifies distribution in the electronic "pull" mode, data are retrieved from the archive and placed in the "pull area" on the data server staging disk. The requester is notified that the data are available for retrieval from that particular location for a set period of time. The requester initiates a file transfer procedure to move the data electronically (over a communications network) to the requester's own system.

In response to a request for distribution in the electronic "push" mode data are retrieved from the archive and placed on a data server staging disk. Then the retrieved data on the staging disk are transferred electronically to the requester's designated storage location (specified in the distribution request) under the control of the data server. The requester is notified when the data push has been completed.

In general, data distribution operations proceed as follows:

- Electronic Pull:
  - A user connects to the system and performs a search [e.g., using the B0 Search and Order Tool (B0SOT)] for a specific data product.
  - When the system notifies the user that the product has been found, the user requests a "pull" of the data using file transfer protocol (ftp).
  - A subscription is entered (through the subscription server) for the requested data to be distributed via ftp pull.
  - The data are retrieved from the archive and placed on the Data Server pull disk.
  - The subscription server notifies the user (via e-mail) that the data are available for retrieval for a set period of time (established by DAAC policy). The notification provides the user with the necessary path and file-naming information to allow retrieval of the data from the Data Server pull disk.
  - The user transfers (pulls) the data from the Data Server pull disk to the user's own system.
  - The data are deleted from the pull disk in accordance with DAAC policy (e.g., after the DAAC Ingest/Distribution Technician has confirmed the data pull or after a set period of time).
- Electronic Push:
  - A user connects to the system and performs a search for a specific data product.
  - When the system notifies the user that the product has been found, the user requests an ftp push of the data. The user supplies all the necessary system, path, and security information to enable the requested data to be placed in a directory on the user's system.
  - A subscription is entered (through the subscription server) for the requested data to be distributed via ftp push.
  - The data are retrieved from the archive, placed on the Data Server staging disk and transferred (pushed) to the user's system.
  - The subscription server notifies the user (via e-mail) that the data push has been completed.
  - The data are deleted from the staging disk in accordance with DAAC policy (e.g., after a set period of time).

Launching Data Distribution Applications

Launching Data Distribution Applications

The following software applications are associated with Data Distribution:

- Distribution Request Manager.
- Data Distribution Operator Graphical User Interface (GUI).

In addition, Data Distribution depends on a number of related servers, such as the Science Data Server and Storage Management servers, to participate in the distribution of data from the archive.

It is expected that eventually the ECS DAAC desktop will be configured to allow access to the Data Distribution Operator GUI using an icon. In the interim, access to the Data Distribution Operator GUI must be gained through the use of UNIX commands.

Launching the Data Distribution applications starts with the assumption that the applicable servers are running and the Ingest/Distribution Technician has logged in to the ECS system.

Launching Data Distribution Applications Using UNIX Commands

1 Access the command shell.

- The command shell prompt is displayed.

NOTE: Commands in Steps 2 through 12 are typed at a UNIX system prompt.

2 Type **xhost +** then press the **Return/Enter** key on the keyboard.

3 Open another UNIX window.

4 Start the log-in to the distribution server host by typing either **telnet *hostname*** (e.g., **g0dps01**), **rlogin *hostname***, or **rsh *hostname*** in the second window then press the **Return/Enter** key.

- If you use the **telnet** command, a **Login:** prompt appears; continue with Step 5.
- If you use either the **rlogin** or **rsh** command, the system uses the User ID currently in use; go to Step 6.

5 If a **Login:** prompt appears, log in as yourself by typing your ***UserID*** then pressing the **Return/Enter** key.

6 At the **Password:** prompt type your ***Password*** then press the **Return/Enter** key.

7 Start the log-in to DCE by typing **dce_login** then pressing the **Return/Enter** key.

8 At the **Enter Principal Name:** prompt type your ***DCE UserID*** then press the **Return/Enter** key.

9 At the **Enter Password:** prompt type your ***DCE Password*** then press the **Return/Enter** key.

10 Type **setenv DISPLAY *clientname*:0.0** then press the **Return/Enter** key.

- Use either the terminal/workstation IP address or the machine-name for the ***clientname***.

11 Type cd /*path* then press **Return/Enter**.

- Change directory to the directory (e.g., /usr/ecs/mode/CUSTOM/bin/DSS) containing the ingest command files.
- The mode will most likely be one of the following operating modes:
  - OPS (for normal operation).
  - TS1 (for testing).
  - SHARED (for other uses).
- Note that the separate subdirectories under /usr/ecs apply to different operating modes.

12 Type **EcDsDdistGui ConfigFile ../../cfg/EcDsDdistGui.CFG ecs_mode *mode*** then press **Return/Enter**.

- The **Data Distribution Operator** GUI **Distrib'n Requests** tab (Figure 1) is displayed.

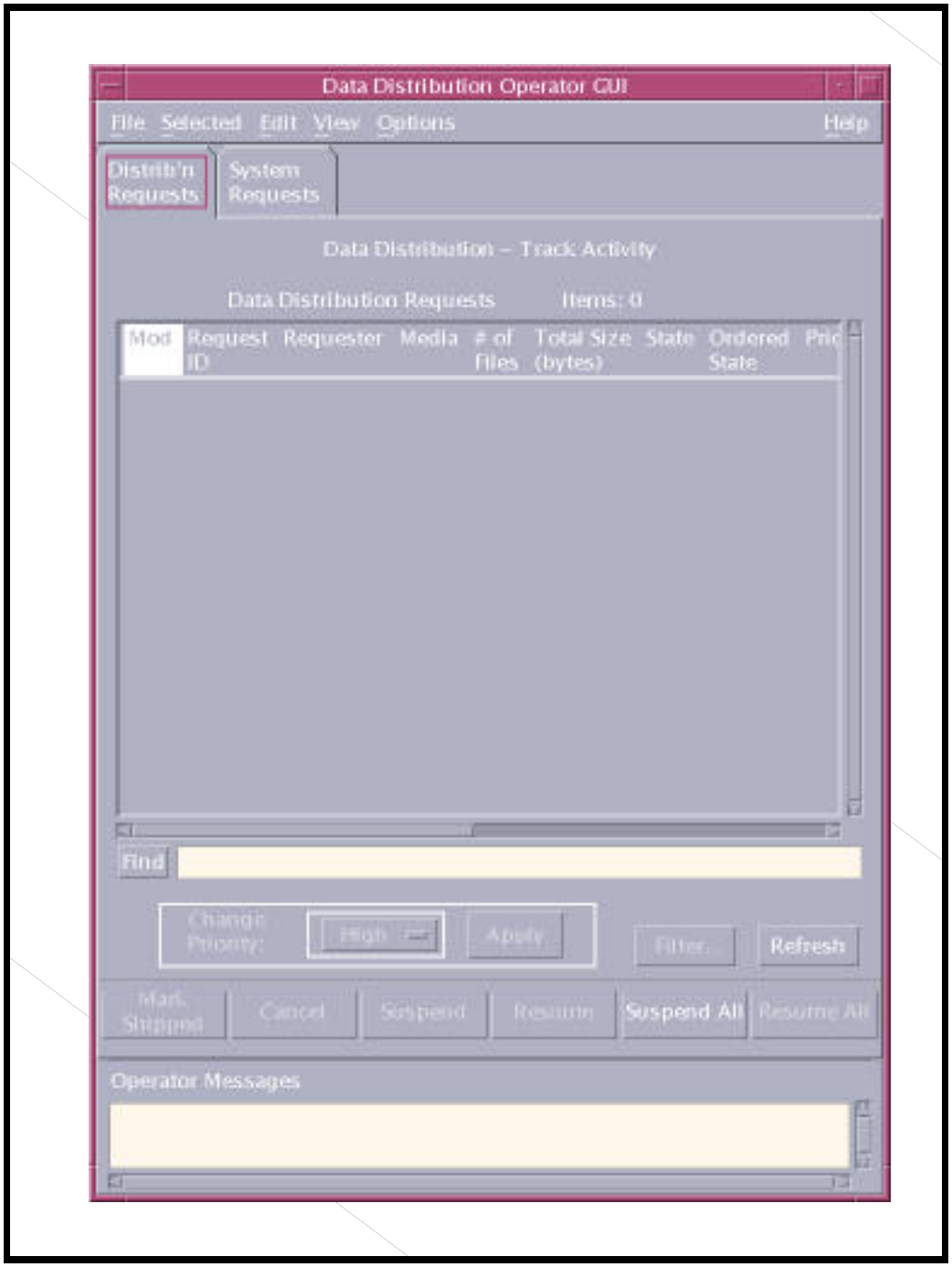


Figure 1. Data Distribution Operator GUI: Distrib'n Requests Tab

This page intentionally left blank.

Distribution Request Operations

Monitoring Data Distribution Requests

Data Distribution activities are monitored and controlled using the **Data Distribution Operator** GUI. The GUI has the following two tabs:

- **Distrib'n Requests** [Distribution Requests].
- **System Requests**.

However, the **System Requests** tab (Figure 2) is not currently functional.

The DAAC Ingest/Distribution Technician monitors and manages data distribution requests primarily via the **Data Distribution - Track Activity** window of the **Distrib'n Requests** tab (Figure 1). From the **Data Distribution - Track Activity** window the DAAC Ingest/Distribution Technician can perform the following functions:

- View data distribution requests.
- Change the priority of a selected distribution request.
- Terminate a request.
- Filter on all or specific requests by...
  - — Request ID.
  - — Requester.
  - — All Requests
  - — Media Type.
  - — State (current status).

The **Data Distribution - Track Activity** window displays the following information for each data distribution request:

- Request ID.
- Requester.
- Media [type].
- # of Files.
- Total Size [of the request] (Mbytes).

- State [current state of the request]

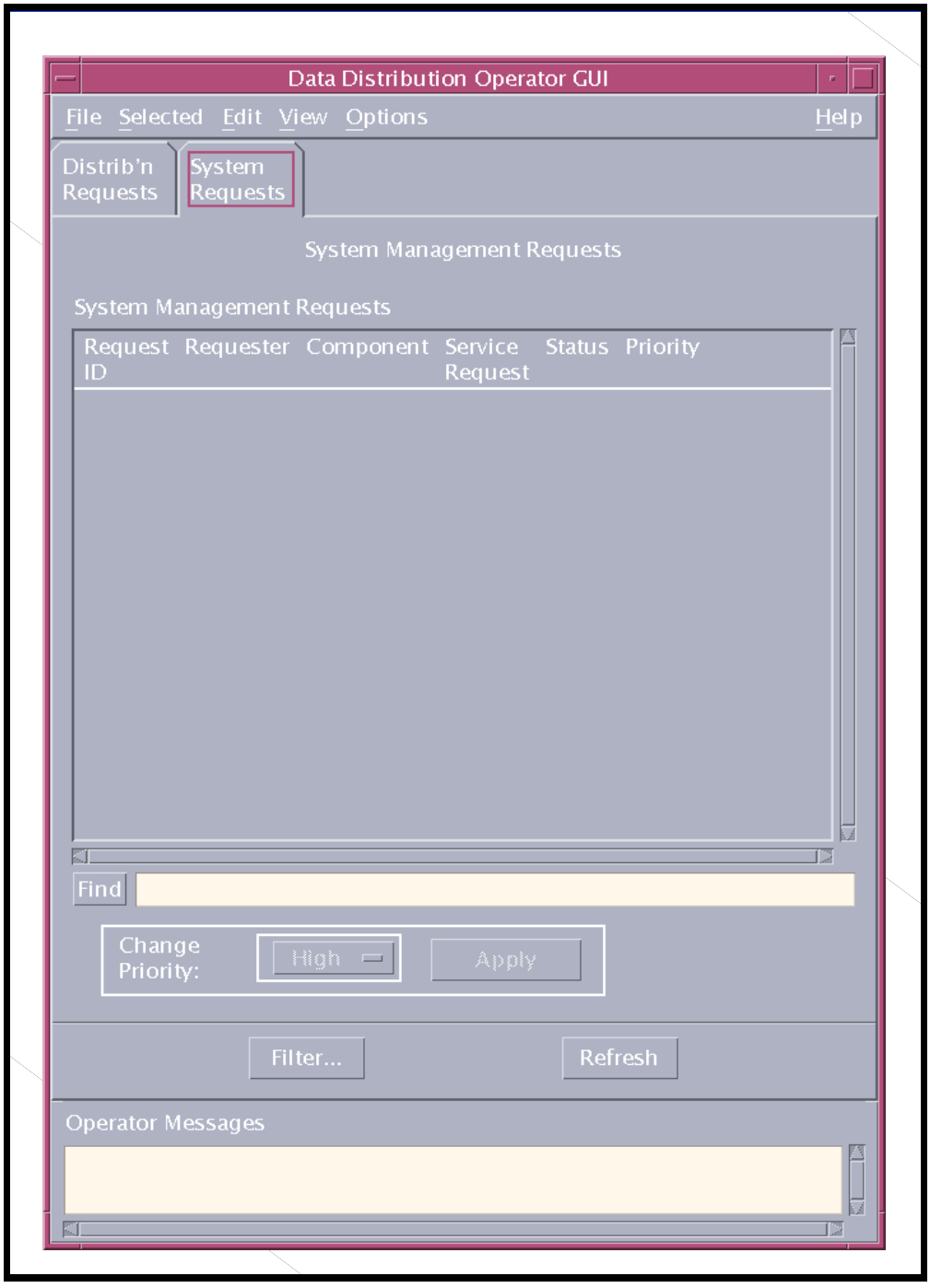


Figure 2. Data Distribution Operator GUI: System Requests Tab

- Ordered State [the next state that the request should have]
- Priority.
- Submission Time.
- End Time
- # Media.
- # Granule.
- Media # Completed.
- ESDT Type.
- Order ID.
- Warm Start [is the request a recovered request?].

The procedure that follows describes how to perform the following actions:

- Display all data distribution requests currently in the system.
- Filter data distribution requests by request ID, requester, all requests, media type, or state.

The procedure for monitoring data distribution requests starts with the assumption that all applicable servers and the **Data Distribution Operator** GUI are currently running and the **Distrib'n Requests** screen (Figure 1) is being displayed.

Monitoring Data Distribution Requests

---

1 Observe information displayed on the **Distrib'n Requests** tab of the **Data Distribution Operator** GUI.

- By default all current distribution requests are shown in the **Data Distribution Requests** list of the **Data Distribution - Track Activity** window (**Distrib'n Requests** tab).
- Note that virtually all data extracted from the archive is controlled by Data Distribution; consequently there may be a lot of activity on the **Data Distribution - Track Activity** screen, especially if data processing is operating at or near capacity.
  - — Consequently, it may be useful to restrict the number of distribution requests displayed by filtering them as described in the next step of this procedure.
- Horizontal and vertical scroll bars allow viewing data that are not readily visible in the window.

- The **Refresh** button provides a means of updating the data on the screen.
- The **Find** button provides a means of performing a keyword search of the distribution requests.

2 To filter requests first click on the **Filter…** button.

- The **Filter Requests** dialog box (Figure 3) is displayed.
- The **Filter Requests** dialog box makes it possible to select specific sets of distribution requests to be displayed in the **Data Distribution Requests** list (**Data Distribution - Track Activity** window) on the basis of the following criteria, either individually or in combination:
  - Request ID.
  - Requester.
  - Media Type.
  - State.
- Perform as many of the following steps as necessary depending on the criteria for filtering distribution requests:
  - Request ID - Step 3.
  - Requester - Step 4.
  - All Requests - Step 5
  - Media Type - Step 6.
  - State - Step 7.

3 If a specific distribution request is desired and the request ID is known, first click on the **Request ID** radio button, then click in adjacent text box and type the request ID.

4 If data distribution requests submitted by a particular requester are desired, first click on the **Requester** radio button, then click in adjacent text box and type the requester's identification.

- In the text box the requester must be identified exactly as known to the Data Server Subsystem.

5 If all data distribution requests are to be displayed in the **Data Distribution Requests** list, click on the **All Requests** radio button and go to Step 8.

- The **All Requests** button is particularly useful for restoring the **Data Distribution Requests** list after reviewing a previously filtered set of requests.

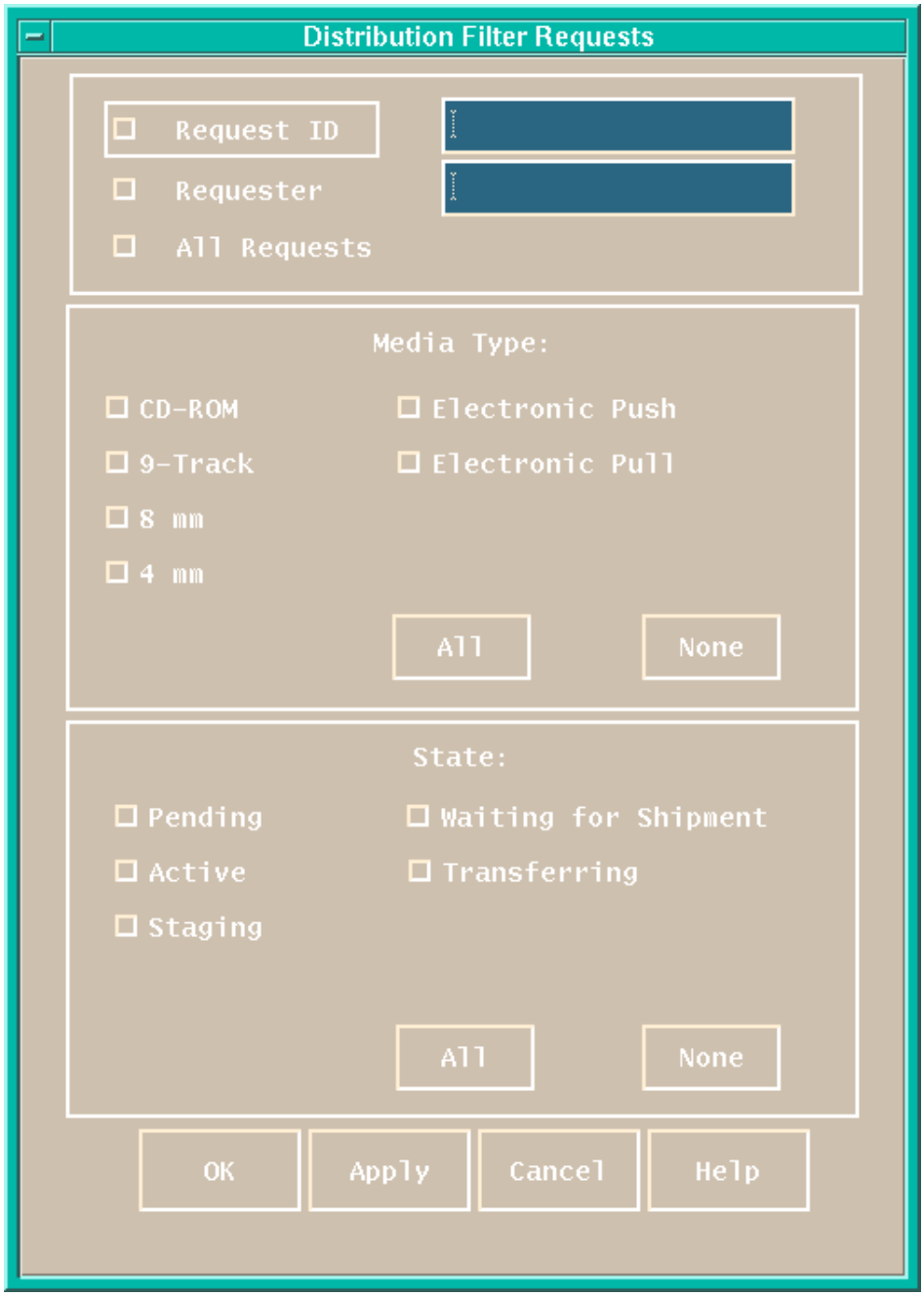


Figure 3. Filter Requests Dialog Box (Data Distribution Request List)

6 If a list of data distribution requests filtered by media type(s) is needed, click on the applicable button(s) in the **Media Type** section of the **Filter Requests** dialog box.

- Radio buttons corresponding to the following types of media are available:
  - **CD-ROM** (Not currently implemented.).
  - **9-Track** (tape) (Not currently implemented).
  - **8 mm** (tape). (Not currently implemented).
  - **4 mm** (tape) (Not currently implemented).
  - **Electronic Push.**
  - **Electronic Pull.**
- In addition, the following media selections are available:
  - **All.**
  - **None.**
- If other filters (e.g., requester or state) are to be applied, the **Apply** button may be clicked to implement the media type filter and leave the **Filter Requests** dialog box open.

7 If a list of data distribution requests filtered by state(s) is needed, click on the applicable button(s) in the **State** section of the **Filter Requests** dialog box.

- Radio buttons corresponding to the following states are available:
  - **Pending.**
  - **Active.**
  - **Staging.**
  - **Waiting for Shipment.**
  - **Transferring.**
- In addition, the following state selections are available:
  - **All.**
  - **None.**
- If other filters (e.g., requester or media type) are to be applied, the **Apply** button may be clicked to implement the state filter and leave the **Filter Requests** dialog box open.

8 If all filter criteria have been selected, close the **Filter Requests** dialog box using one of the following methods:

- Click on the **OK** button to implement the specified filter(s).
  - — The **Data Distribution - Track Activity** window (Figure 1) reappears; only requests that meet the specified filter criteria appear in the list.
- Click on the **Cancel** button to close the **Filter Requests** dialog box without implementing any filters.
  - — The previously available **Data Distribution Requests** list is shown in the **Data Distribution - Track Activity** window (Figure 1).

9 Observe data distribution requests displayed in the **Data Distribution Requests** list.

10 Repeat Steps 2 through 9 as necessary to monitor data distribution requests.

11 To exit from the **Data Distribution Operator GUI** select **File → Exit** from the pull-down menu.

Configuring Data Distribution Polling

The **Data Distribution Operator** GUI **Options** menu provides the Ingest/Distribution Technician with a means of switching the Data Distribution database polling function on or off. In addition, there are two parameters that the technician can modify:

- DDist Polling Rate
- Error Retry Rate

The polling rate specifies how often (in seconds) the system updates the information displayed in the **Data Distribution - Track Activity** window. The error retry rate specifies the amount of time (in seconds) that the system waits before trying to poll the Data Server after a failed attempt.

The procedure for configuring data distribution polling starts with the assumption that all applicable servers and the **Data Distribution Operator** GUI are currently running and the **Data Distribution - Track Activity** window (Figure 1) on the **Distrib'n Requests** tab is being displayed.

Configuring Data Distribution Polling

---

1 Select **Options → Refresh Options** from the pull-down menu.

- The **Refresh Options** dialog box (Figure 4) is displayed.

2 To change the DDist Polling state (from off to on or vice versa), click on the **DDist Polling On** button.

- If the button appears to be raised, clicking on it turns DDist Polling on.
- If the button appears to be depressed, clicking on it turns DDist Polling off.

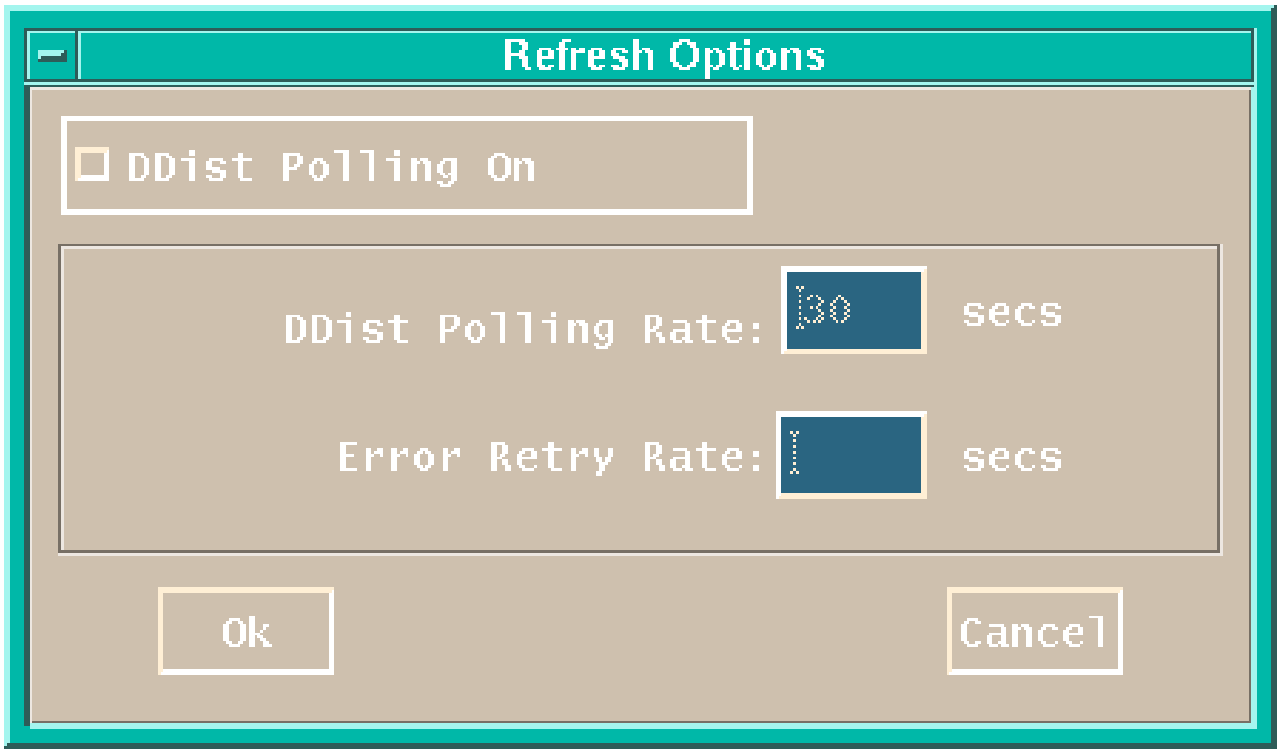


Figure 4. Refresh Options Dialog Box

3 To change the polling rate, type the desired value (in seconds) in the **DDist Polling Rate** field.

4 To change the error retry rate, type the desired value (in seconds) in the **Error Retry Rate** field.

5 Click on the **OK** button to apply the selections and dismiss the **Refresh Options** dialog box.

Changing the Priority of Data Distribution Requests

Note that there are buttons on the **Data Distribution - Track Activity** window below the **Data Distribution Requests** list window that allow the Ingest/Distribution Technician to suspend, resume, cancel, or change the priority of data distribution requests. A request may be suspended or canceled or have its priority changed if it has not yet started processing; i.e., if it is in a "pending" state. For example, if there is a request in a "pending" state that has a low priority and has been waiting to be processed for a very long time, it may be advisable to assign the request a higher priority so that it will be processed.

- Assigning a high priority to a data distribution request means that the request will be processed before requests with "normal" or "low" priorities.
- Assigning a low priority to a data distribution request means that the request will be processed after requests with "high" or "normal" priorities.

The procedure for changing the priority of data distribution requests starts with the assumption that all applicable servers and the **Data Distribution Operator** GUI are currently running and the **Data Distribution - Track Activity** window (Figure 1) on the **Distrib'n Requests** tab is being displayed.

Changing the Priority of Data Distribution Requests

1 If the list of data distribution requests shown on the **Data Distribution - Track Activity** window needs to be filtered to include the distribution request for which the priority is to be changed, perform the applicable steps of the procedure for **Monitoring Data Distribution Requests**.

2 Highlight the distribution request to be assigned a different priority by clicking on its entry in the **Data Distribution Requests** list.

3 Click and **hold** the **Change Priority** option button to display a menu of priorities, move the mouse cursor to the desired selection (highlighting it), then release the mouse button.

- The following priority codes are available:
  - **High.**
  - **Normal.**
  - **Low.**
- Selected code is displayed on the **Change Priority** option button when the mouse button is released.

4 To implement the priority change click on the **Apply** button to the right of the priority option button.

Suspending/Resuming Data Distribution Requests

Under certain circumstances it may be advisable to suspend the processing of a data distribution request and resume it at a later time. For example, if there is a very large request that is taking up resources and causing other requests to back up waiting (especially requests from data processing that must be filled to allow processing to proceed), the processing of that request should be suspended until a time when there is less demand on data distribution.

Use the procedure that follows to suspend and subsequently resume data distribution. The procedure starts with the assumption that all applicable servers and the **Data Distribution Operator** GUI are currently running and the **Data Distribution - Track Activity** window (Figure 1) on the **Distrib'n Requests** tab is being displayed.

Suspending/Resuming Data Distribution Requests

---

1 If the list of data distribution requests shown on the **Data Distribution - Track Activity** window needs to be filtered to include the distribution request to be suspended or resumed, perform the applicable steps of the procedure for **Monitoring Data Distribution Requests**.

2 To **suspend** a request first click on the corresponding row in the **Data Distribution Requests** list to highlight the desired request.

3 Click on the **Suspend** button near the bottom of the **Distrib'n Requests** tab.

4 To **resume** a suspended request first click on the corresponding row in the **Data Distribution Requests** list to highlight the desired request.

5 Click on the **Resume** button near the bottom of the **Distrib'n Requests** tab.

- The selected data distribution request resumes processing.

Canceling Data Distribution Requests

Sometimes it may be necessary to cancel the processing of a data distribution request. Use the procedure that follows to cancel data distribution processing. The procedure starts with the assumption that all applicable servers and the **Data Distribution Operator** GUI are currently running and the **Data Distribution - Track Activity** window (Figure 1) on the **Distrib'n Requests** tab is being displayed.

Canceling Data Distribution Requests

1 If the list of data distribution requests shown on the **Data Distribution - Track Activity** window needs to be filtered to include the distribution request to be canceled, perform the applicable steps of the procedure for **Monitoring Data Distribution Requests**.

2 To cancel a request first click on the corresponding row in the **Data Distribution Requests** list to highlight the desired request.

3 Click on the **Cancel** button near the bottom of the **Distrib'n Requests** tab.

- The selected data distribution request is canceled.

This page intentionally left blank.

Practical Exercise

Introduction

This exercise is designed to give the students practice in data distribution activities.

Equipment and Materials

One ECS workstation per student.

Statement of the requirements for the exercise.

Operations Tools Manual, 609-CD-003-001, one copy per student.

Mission Operation Procedures for the ECS Project, 611-CD-004-001, one copy per student.

Launching Data Distribution Applications

The exercise involves launching data distribution applications. The exercise begins with a student acting in the role of Ingest/Distribution Technician receiving the necessary information/ requirements for launching data distribution applications. The student launches data distribution applications as specified in the requirements.

Perform the following steps:

1. Access the command shell.
2. Log in to the distribution server host.
3. Set the DISPLAY environmental variable.
4. Enter the path/command to start the **Data Distribution Operator** GUI.

Monitoring Data Distribution Requests

The exercise involves monitoring data distribution requests via ftp push and/or ftp pull. The exercise begins with a student acting in the role of Ingest/Distribution Technician receiving the necessary information/ requirements for monitoring data distribution requests. The requirements may include instructions to change the priority of a distribution request, or cancel, suspend and/or resume a distribution request. The student monitors data distribution requests as specified in the requirements.

Perform the following steps:

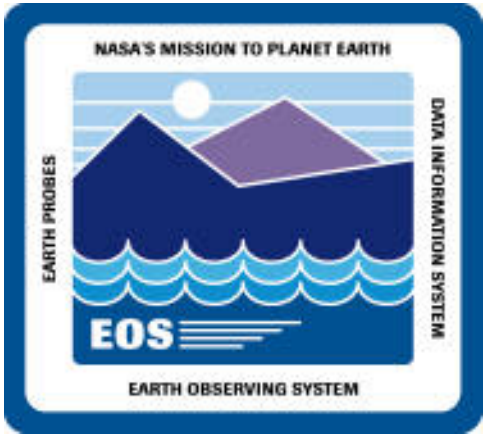
1. Access the **Data Distribution - Track Activity** window of the **Data Distribution Operator** GUI.
2. Monitor data distribution requests as specified in the written or stated requirements.
3. Filter requests as necessary.
4. Change the priority of a distribution request, or cancel, suspend and/or resume a distribution request as specified in the written or stated requirements.

Slide Presentation

Slide Presentation Description

The following slide presentation represents the slides used by the instructor during the conduct of this lesson.

This page intentionally left blank.



DATA DISTRIBUTION

ECS Version 2.0 Training

Overview of Lesson

- **Introduction**
- **Distribution Concepts**
- **Launching Data Distribution Applications**
- **Distribution Request Operations**

Overview of Lesson (Cont.)

- **Practical Exercise**
  - **Launching Data Distribution Applications**
  - **Monitoring Data Distribution Requests**

Objectives

- **OVERALL:**
  - **Develop proficiency in the procedures that apply to data distribution operations**
- **SPECIFIC:**
  - **Describe the general processes associated with data distribution**
  - **Perform the steps involved in...**
    - » **launching data distribution applications**
    - » **monitoring data distribution requests**
- **STANDARD:**
  - **Mission Operation Procedures for the ECS Project - 611-CD-004-001**

Data Distribution Concepts

- **Data Distribution is a process of retrieving archived data and providing the data to users in response to the users' requests**
  - **external users**
  - **internal processes**
- **Data retrieved from the archives can be distributed to requesters using either of the following two general methods:**
  - **Electronic pull**
  - **Electronic push**
- **Eventually, it will be possible to distribute data on hard (physical) media**

Data Distribution Concepts (Cont.)

- **Method of data distribution is dictated by the nature of the data distribution request**
  - **User (requester) specifies the distribution method in the distribution request**

Data Distribution Concepts (Cont.)

- **Electronic Pull:**
  - **User searches for a specific data product**
  - **User requests a "pull" of the product using file transfer protocol (ftp)**
  - **Subscription is entered for data product to be distributed via ftp pull**
  - **Specified data product is retrieved from the archive and placed on the Data Server pull disk**
  - **Subscription server notifies user that the product is available for retrieval**
  - **User transfers (pulls) the product from the Data Server pull disk to the user's own system**
  - **Product is deleted from the pull disk in accordance with DAAC policy**

Data Distribution Concepts (Cont.)

- **Electronic Push:**
  - **User searches for a specific data product**
  - **User requests an ftp “push” of the product**
  - **Subscription is entered for data product to be distributed via ftp push**
  - **Product is retrieved from the archive, placed on the Data Server staging disk and transferred (pushed) to the user's system**
  - **Subscription server notifies user that the data push has been completed**
  - **Product is deleted from the staging disk in accordance with DAAC policy**

Launching Data Distribution Applications

- **Distribution Request Manager**
- **Data Distribution Operator Graphical User Interface (GUI)**

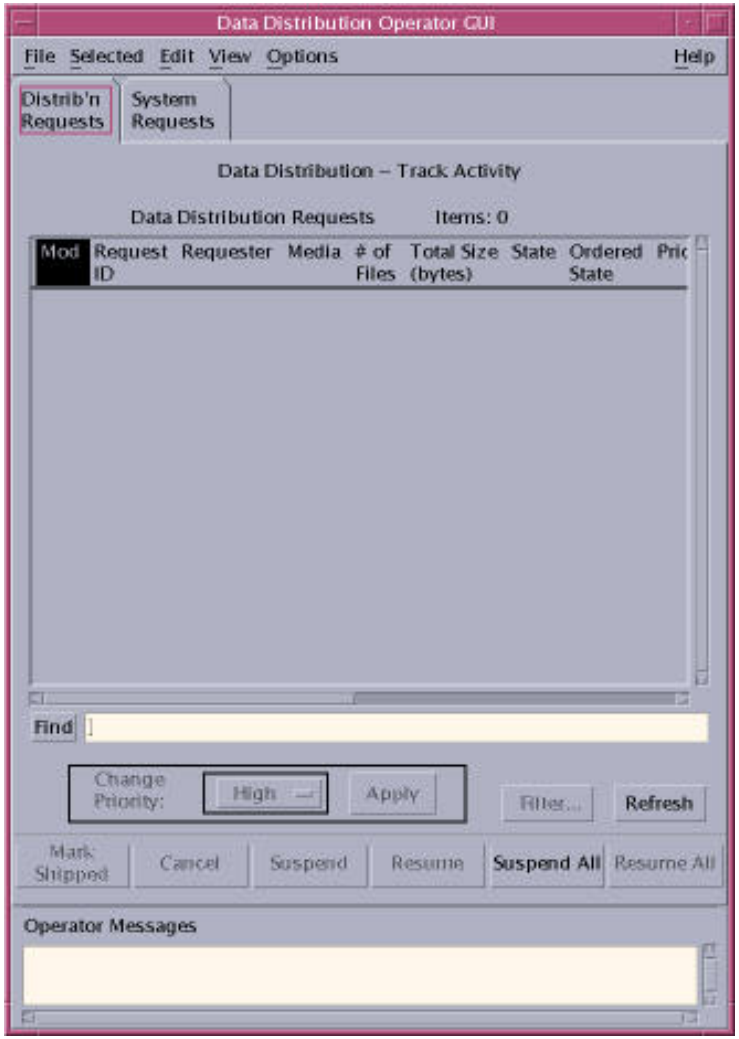
Launching Data Distribution Applications (Cont.)

- **Use UNIX command line to gain access to graphical user interface (GUI)**
- **Eventually an icon on the ECS desktop will allow access to Data Distribution Operator GUI**

Launching Data Distribution Applications (Cont.)

- **Procedure**
  - **Access UNIX command shell**
  - **Log in to the distribution server host**
  - **Set the DISPLAY environmental variable**
  - **Enter the path/command to start the Data Distribution Operator GUI**

Data Distribution Operator GUI: Distrib'n Requests Tab



Distribution Request Operations

- **Data Distribution activities are monitored and controlled using the Data Distribution Operator Graphical User Interface (GUI)**
- **The DAAC Ingest/Distribution Technician monitors and manages data distribution requests primarily via the Data Distribution - Track Activity window of the Data Distribution Operator GUI**

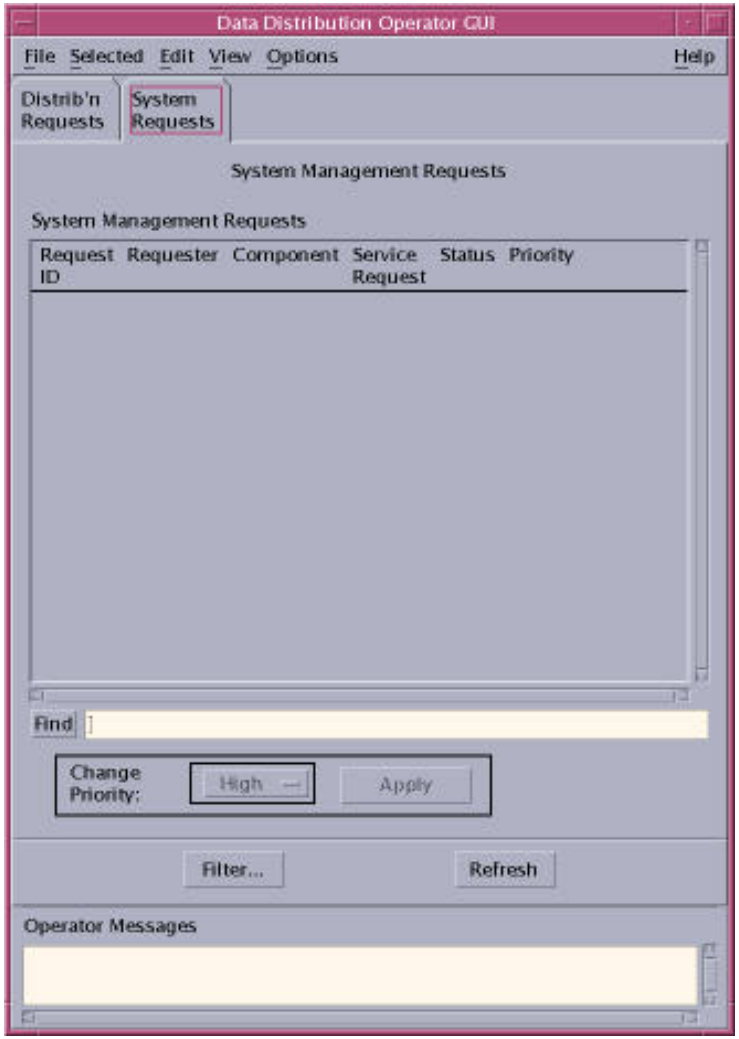
Distribution Request Operations (Cont.)

- From the Data Distribution - Track Activity window the DAAC Ingest/Distribution Technician can perform the following functions:
  - View data distribution requests
  - Change the priority of a selected distribution request
  - Terminate a request
  - Filter on all or specific requests by...
    - » Request ID
    - » Requester
    - » Media Type
    - » State (current status)

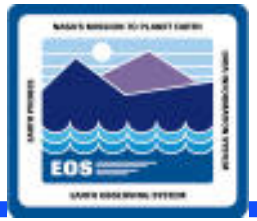
Distribution Request Operations (Cont.)

- The Data Distribution - Track Activity window displays the following information (plus additional information) for each data distribution request:
- Request ID
  - Requester
  - Media type
  - # of Files
  - Total Size of the request in Mbytes
  - State
  - Priority
  - ESDT Type
  - Order ID

Data Distribution Operator GUI: System Requests Tab



Distribution Request Operations (Cont.)

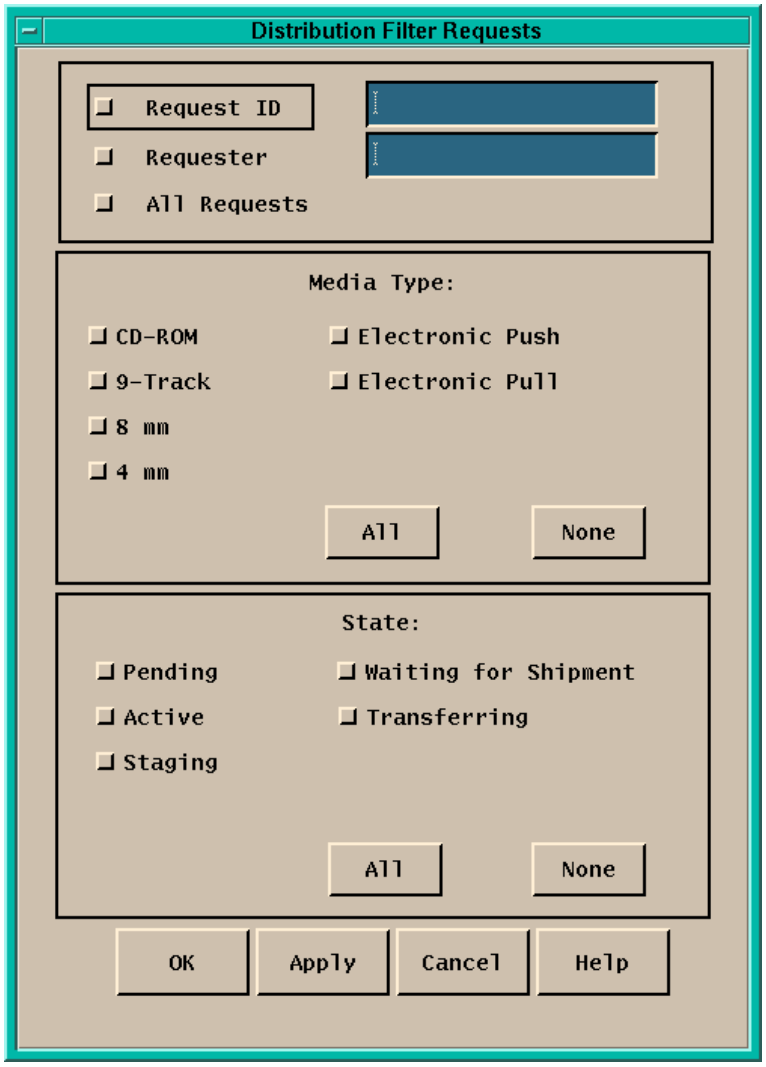


- **Monitoring Data Distribution Requests**
  - **Procedure describes how to perform the following actions:**
    - » **Display all data distribution requests currently in the system**
    - » **Filter data distribution requests by request ID, requester, media type, or state**

Monitoring Data Distribution Requests

- **Procedure**
  - **Click on the Distrib'n Requests tab**
  - **To filter requests first click on the Filter button**
  - **Select filter criteria**
  - **Click on the OK button**
  - **Observe data distribution request information displayed in the Data Distribution Requests list**
  - **Repeat steps as necessary**

Distrib'n Requests Tab: Filter Requests Dialog Box



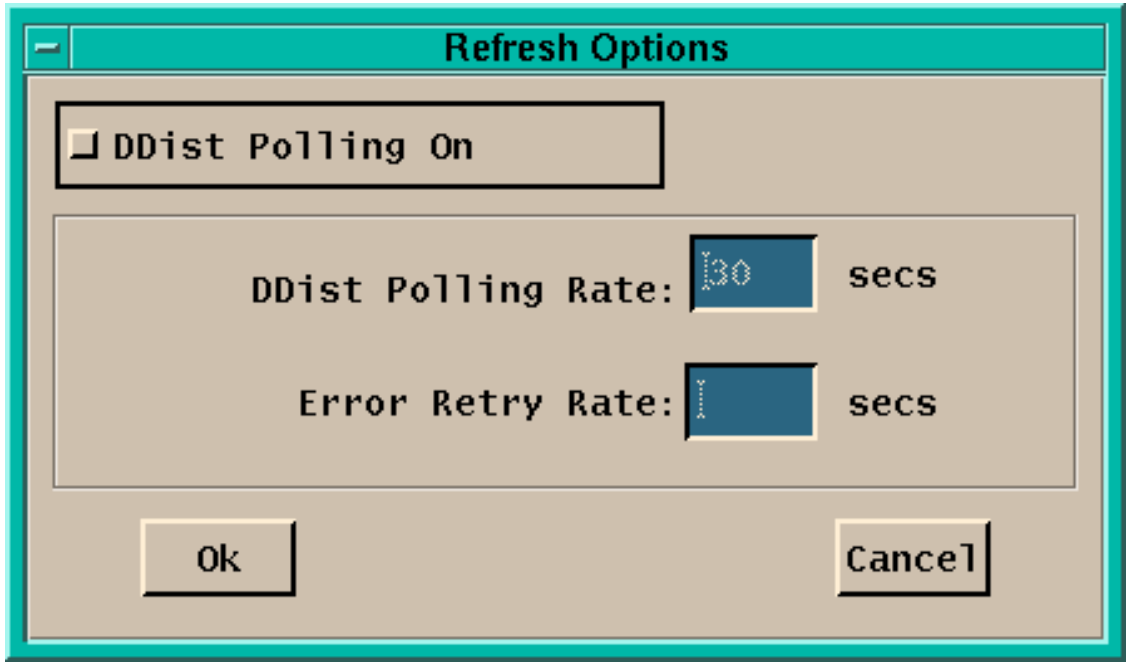
Data Distribution Polling

- **Refresh Options Dialog from the Data Distribution Operator GUI Options menu is used for...**
  - **switching the Data Distribution database polling function on or off**
  - **modifying DDist Polling Rate**
    - » **specifies how often (in seconds) the system updates the information displayed in the Data Distribution - Track Activity window**
  - **modifying Error Retry Rate**
    - » **specifies the amount of time (in seconds) that the system waits before trying to poll the Data Server after a failed attempt**

Configuring Data Distribution Polling

- **Procedure**
  - **Select Options → Refresh Options from the pull-down menu of the Data Distribution Operator GUI**
  - **Click on the DDist Polling On button to change the state of polling**
  - **Enter values for the polling rate and error retry rate if changes are desired**
  - **Click on the OK button**

Refresh Options Dialog Box



Distribution Request Operations (Cont.)

- **Changing the Priority of Data Distribution Requests**
  - **A request may be suspended or canceled or have its priority changed if it has not yet started processing**
    - » **i.e., if it is in a "pending" state**
  - **Assigning a "high" priority to a data distribution request means that the request will be processed before requests with "normal" or "low" priorities**
  - **Procedure**
    - » **Highlight the distribution request to be assigned a different priority**
    - » **Select the new priority using the Change Priority button**
    - » **Click on the Apply button**

Distribution Request Operations (Cont.)

- **Suspending/Resuming Data Distribution Requests**
  - **Under certain circumstances it may be advisable to suspend the processing of a data distribution request and resume it at a later time**
  - **Procedure**
    - » **Select the distribution request to be suspended**
    - » **Click on the Suspend button to suspend a distribution request**
    - » **Select the distribution request to be resumed**
    - » **Click on the Resume button to resume a suspended distribution request**

Distribution Request Operations (Cont.)

- **Canceling Data Distribution Requests**
  - **Sometimes it may be necessary to cancel the processing of a data distribution request**
  - **Procedure**
    - » **Select the distribution request to be canceled**
    - » **Click on the Cancel button**